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EXAMINER	
TIMBLIN, ROBERT M	

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2167	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/706,617	WADA, SHINYA	
	Examiner	**Art Unit**	
	ROBERT TIMBLIN	2167	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *31 January 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-16 and 20-27* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-16 and 20-27* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ ~~Information Disclosure Statement(s) (PTO/SB/08)~~ Paper No(s)/Mail Date *3/4/2008*.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5) ☐ ~~Notice of Informal Patent Application~~

6) ☐ Other: _____.

DETAILED ACTION

This office action corresponds to application 10/706,617 filed 11/12/2003.

Response to Amendment

Claims 1-16 and 20-27 have been amended and new claims 26 and 27 are newly added in the response submitted 1/31/2008. Accordingly, claims 1-16 and 20-25 are pending in this application.

Information Disclosure Statement

The information disclosure statement (IDS) submitted on 3/4/2008 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the examiner is considering the information disclosure statement.

Claim Objections

The Examiner thanks Applicant for the amendments made to overcome the previous claim objections. The previous claim objections have been withdrawn in light of the amendments.

Specification

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required:

The computer-readable recording medium as found in claims 20-22 and 25 should be clearly defined in the specification as a statutory medium (i.e. precluding storage on carrier waves, signals, etc.) so to enable the scope of the medium to be realized.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-9, 23, and 26-27 are rejected under 35 U.S.C. 101 because they are directed towards non-statutory subject matter. Specifically, the apparatus claimed therein may be composed of software units. Applicant's specification (see published specification at paragraph 0053) states that the functional blocks of figure 2 (comprising of an attribute input unit, a comparison processing unit, positioning determining unit, and a display processing unit) can be realized in a variety of forms by hardware only, *software only* or the combination thereof. Because the apparatus of the foregoing claims can be software only, these claims are not statutory because they are software per se (or functional descriptive material per se). If Applicant intends the apparatus of claims 1-9, 23, and 26-27 to be a hardware apparatus, there needs to be an element of hardware in the claims so to make the claims statutory. Otherwise, if the apparatus is a software apparatus, the units claimed therein need to be stored on a statutory computer storage medium so that their functionality can be realized by a computer. See MPEP 2106.01 for further details pertaining to claiming non-statutory descriptive material.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 3-6, 9, 10, 12-14, 16, and 20-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aoki et al. (Aoki) (U.S. Patent 6,253,218) in view of Brosnan et al. (Brosnan hereafter) U.S. Patent Application 2004/0002380.

With respect to claim 1, Aoki teaches in at least embodiment 1 (starting line 30 of column 8 and figures 1-13) a file processing apparatus, including:

an attribute input unit (102) which acquires a value of an attribute (col. 2 line 45) for at least one file (col. 2 line 10) in order to represent a value of a predetermined attribute for an intended file (as a data characteristics detecting section 102 that corresponds to the attribute input unit col. 8 lines 46-50 and figure 1, 108) by using a concept of weight (col. 20 line 30-67; i.e. judging density suggests a concept of weight);

a comparison processing (judging section 43) unit which compares the value of an attribute with a reference value (as data characteristics detecting section extracts attribute values of data from database, such as the date of creation and the data model generating section generates a 3-D data model according to the extracted attribute

values of the data. The data model placing section calculates a display position of the 3-D data model on the 3-D coordinate space and 3-D data model set at a position, which visually represents the attribute such as the data of generation of the data (embodiment 1, column 9). By these teachings, a comparison had to have been made of the date of creation of the data with the date represented by the original point in the 3-D space for determining the display position).

a position determining unit (106) which sets, based on a result obtained from said comparison processing unit (judging section 43), a relative display position of a predetermined object (col. 20 line 43 and at least figures 46-47) that represents symbolically the weight (i.e. density).

a display processing unit (107) which visually represents the value of the attribute (col. 2 line 45), by displaying the object at the display position on a screen set by said position determining unit (as the display section outputs the placing result; col. 9 lines 23-25)

the display position (fig. 2; e.g. the z-axis) indicates whether the object (figure 2; e.g. data models 203 representing files) is comparatively heavy or light (figure 2 and col. 2 line 40-47; e.g. the depth on the z axis depicting an attribute of each item within the space in comparison with the other items) with a difference in the display position in the direction of the virtual force (figure 2; e.g. the depth/shallowness of the data object with respect to the z axis indicates a display position).

Aoki fails to explicitly teach wherein the display position indicates that a virtual force is exerted on the object displayed on the screen at least in one direction.

Brosnan, however, teaches the display position indicates that a virtual force is exerted on the object displayed on the screen at least in one direction (0073 and 0130) for simulating the display of objects on a screen as determined by their properties (see also Brosnan, 0138).

In the same field of endeavor, (i.e. displaying objects according to their attributes), it would have been obvious to one of ordinary skill in the data processing art at the time of the present invention to combine the teachings of the cited references because the virtual forces, as provided by Brosnan, would have given Aoki's system better visualization of data items represented on a screen for the benefit of a user to better understand the placement of data relative to other data and furthermore making it easier for a user to manage that data (need shown by Aoki at col. 2 line 10-16). Further, the virtual force used in Brosnan would have enabled a user of Aoki to understand the characteristics of each data item in a relationship among the data.

With respect to claim 3, Aoki teaches a file processing apparatus according to claim 1, wherein said attribute input unit acquires values of the attribute for a plurality of files (detecting data), said comparison processing unit sets a value of an attribute for at least one of the plurality of files to the reference value, said position determining unit sets relative display positions of a plurality of objects corresponding to the plurality of files, respectively, and wherein said display processing unit displays the plurality of files at the respective display positions and visually represents the comparison of weights of the files via another object representative of the measurement of the weights (col. 9,

lines 1-10 and figures 1-2) Therein data characteristics and data attributes are detected. After, a 3-D data model is determined by the obtained information.

With respect to claim 4, Aoki teaches a file processing apparatus according to claim 3 wherein said comparison processing unit sets, as the reference value, a size of a storage area that stores at least one file, said position determining unit sets a relative display position of an object indicative of the storage area according to the size of the storage area, and wherein said display processing unit visually expresses the comparison of data size between the at least one file and the storage area via the another object. As seen in embodiment 1 starting in column 8 and specifically in col. 9 lines 5-15 as a display pattern is based upon data characteristics which correlate to reference values.

With respect to claim 5, Aoki teaches a file processing apparatus according to claim 1, wherein said attribute input unit acquires values of an attribute for a plurality of files and said comparison processing unit classifies the plurality of files into a plurality of groups according to the respective values of the attribute, and wherein said display processing unit displays the object in an appearance corresponding to the respective groups as categories (col. 9 line 20).

With respect to claim 6, Aoki teaches a file processing apparatus according to claim 1, wherein said attribute input unit acquires values of an attribute for a plurality of

files (col. 9 lines 5-10), said comparison processing unit classifies the plurality of files into a plurality of classes and sequentially compares the values of an attribute for each class (col. 9 line 20), wherein, after relative display positions are temporarily determined respectively as positions that initially display objects for the plurality of files (figure 2), said position determining unit sequentially updates the relative display positions in a manner such that comparison results for each class are reflected for each class, and wherein said display processing unit varies the display of the objects according to said updating after the plurality of files are displayed at the temporally determined relative display positions (taught at least by embodiment 15 in column 26 and figure 83).

With respect to claim 9, Aoki teaches a file processing apparatus according to claim 1 further including:

an instruction receiving unit which receive an instruction from a user intending to change the display (abstract and col. 3 line 8-10; i.e. a user directing change) position of the object as an input section (108 of figure 1); and

an effect generator (figure 13) which causes, based on the instruction, said position determining unit and said display processing unit to process a change in any of position, shape and appearance of the object (as a viewpoint changing section 109 of figure 1).

With respect to claim 10 Aoki teaches a method of processing files, including:

setting a relative display position of a predetermined object that symbolically represents the files in terms of whether the weight thereof is heavy or light (col. 20 line 67; i.e. density suggests a concept of heavy/light weight), based on a value of a predetermined attribute for an intended file, in order to represent the value of a predetermined attribute therefor by using a concept of weight (col. 9 lines 15-20); and

representing visually the weight by displaying the object at the relative display position on a screen (col. 9 lines 23-25)

the relative display position (fig. 2; e.g. the z-axis) indicates whether the object (figure 2; e.g. data models 203 representing files) is comparatively heavy or light (figure 2 and col. 2 line 40-47; e.g. the depth on the z axis depicting an attribute of each item within the space in comparison with the other items) with a difference in the display position in the direction of the virtual force (figure 2; e.g. the depth/shallowness of the data object with respect to the z axis indicates a display position).

Aoki fails to explicitly teach the relative display position indicates that a virtual force is exerted on the object displayed on the screen at least in one direction.

Brosnan, however, teaches the relative display position indicates that a virtual force is exerted on the object displayed on the screen at least in one direction (0073 and 0130) for simulating the display of objects on a screen as determined by their properties (see also Brosnan, 0138).

In the same field of endeavor, (i.e. displaying objects according to their attributes), it would have been obvious to one of ordinary skill in the data processing art at the time of the present invention to combine the teachings of the cited references

because the virtual forces, as provided by Brosnan, would have given Aoki's system better visualization of data items represented on a screen for the benefit of a user to better understand the placement of data relative to other data and furthermore making it easier for a user to manage that data (need shown by Aoki at col. 2 line 10-16).

With respect to claim 12, Aoki teaches A method of processing files, including:

acquiring values (102; i.e. detecting data characteristics) of a predetermined attribute (col. 2 line 45) for a plurality, of intended files (col. 2 line 10) in order to represent the values of a predetermined attribute therefor by using a concept of weight (i.e. density; col. 20);

setting (108), for each of the plurality of files (col. 2 line 10), a relative display position of a predetermined object that represents symbolically the files (col. 3 line 5-10, and at least figures 1, 2, and 46-47) in terms of whether the weight thereof is heavy or light (i.e. density, col. 20 line 30-67), based on the values of a predetermined attribute (col. 2 line 45); and

displaying the objects of the plurality of files at the respective display positions on a screen (drawing reference 107), and expressing visually comparison of the weights of the objects via another object that symbolizes weight measurement (figures 44-47; i.e. denser objects are represented deeper on the z-axis), wherein

the relative display position (fig. 2; e.g. the z-axis) indicates whether the object (figure 2; e.g. data models 203 representing files) is comparatively heavy or light (figure 2 and col. 2 line 40-47; e.g. the depth on the z axis depicting an attribute of each item

within the space in comparison with the other items) with a difference in the display position in the direction of the virtual force (figure 2; e.g. the depth/shallowness of the data object with respect to the z axis indicates a display position).

Aoki fails to explicitly teach the relative display position indicates that a virtual force is exerted on the object displayed on the screen at least in one direction.

Brosnan, however, teaches the relative display position indicates that a virtual force is exerted on the object displayed on the screen at least in one direction (0073 and 0130) for simulating the display of objects on a screen as determined by their properties (see also Brosnan, 0138).

In the same field of endeavor, (i.e. displaying objects according to their attributes), it would have been obvious to one of ordinary skill in the data processing art at the time of the present invention to combine the teachings of the cited references because the virtual forces, as provided by Brosnan, would have given Aoki's system better visualization of data items represented on a screen for the benefit of a user to better understand the placement of data relative to other data and furthermore making it easier for a user to manage that data (need shown by Aoki at col. 2 line 10-16).

With respect to claim 13, Aoki teaches a method of processing files according to claim 12, wherein said acquiring further acquires a size of a storage area that stores at least one file (col. 9 lines 5-10), and said setting sets the relative display position of at least one object corresponding to the at least one file, based on a comparison result obtained by comparing a data size between the at least one object and the storage area

(embodiment 1, column 9), and wherein said displaying and expressing represents visually the comparison result via the another object (display section 107).

With respect to claim 14, Aoki teaches a method of processing files, including:

acquiring values of a predetermined attribute for a plurality of files, in order to represent the values of a predetermined attribute for intended files (col. 8 lines 46-50 and figure 1, 108, 102) by using a concept of weight (i.e. density, col. 20);

setting a temporary sequence for the plurality of files (figure 2 and col. 9 lines 1-20; 3-D model);

determining, based on the temporary sequence (figure 2), a temporary display position of a predetermined object (figures 44-47) that symbolically represents the files in terms of whether the weight thereof is heavy or light (i.e. density, col. 20);

displaying an object that corresponds to the plurality of files (col. 2 line 10), at the temporary display position on a screen (figure 2, 202, 203);

comparing the values of a predetermined attribute between adjacent files in the temporary sequence (embodiment 1, column 9);

updating the display position based on a comparison result obtained from said comparing (col.34 lines 9-20); and

representing visually the weight thereof by varying display contents according to said updating (as a display pattern determined based on size; col. 9 lines 8-10), wherein

the temporary display position (fig. 2; e.g. the z-axis) indicates whether the object (figure 2; e.g. data models 203 representing files) is comparatively heavy or light (figure 2 and col. 2 line 40-47; e.g. the depth on the z axis depicting an attribute of each item within the space in comparison with the other items) with a difference in the display position in the direction of the virtual force (figure 2; e.g. the depth/shallowness of the data object with respect to the z axis indicates a display position).

Aoki fails to explicitly teach the temporary display position indicates that a virtual force is exerted on the object displayed on the screen at least in one direction.

Brosnan, however, teaches the temporary display position indicates that a virtual force is exerted on the object displayed on the screen at least in one direction (0073 and 0130) for simulating the display of objects on a screen as determined by their properties (see also Brosnan, 0138).

In the same field of endeavor, (i.e. displaying objects according to their attributes), it would have been obvious to one of ordinary skill in the data processing art at the time of the present invention to combine the teachings of the cited references because the virtual forces, as provided by Brosnan, would have given Aoki's system better visualization of data items represented on a screen for the benefit of a user to better understand the placement of data relative to other data and furthermore making it easier for a user to manage that data (need shown by Aoki at col. 2 line 10-16).

With respect to claim 16, Aoki teaches a method of processing files according to claim 10, further including: acquiring an instruction from a user who intends to cause a

display position of the object to be changed; and changing at least one of position, shape and appearance of the object, based on the instruction. This limitation is taught by Aoki wherein a user inputs a command for changing the view by means of the input section (embodiment 1, column 9).

With respect to claim 20, Aoki teaches A computer-readable recording medium which stores a program executable by a computer, the program including the functions of:

setting a relative display position (fig. 47) of a predetermined object (drawing reference 208) that symbolically represents the files (e.g. files in figure 47) in terms of whether the weight thereof is heavy or light (i.e. density, suggesting weight; col. 20, lines 24-65), based on a value of a predetermined attribute for an intended file (figure 2, drawing reference 202), in order to represent the value of a predetermined attribute therefor by using a concept of weight (i.e. density, col. 20); and

representing visually (drawing reference 208) the weight by displaying the object at the relative display position on a screen (col. 20 lines 30-46; i.e. Aoki discloses placing data in subspaces according to density).

Aoki fails to explicitly teach the relative display position indicates that a virtual force is exerted on the object displayed on the screen at least in one direction.

Brosnan, however, teaches the relative display position indicates that a virtual force is exerted on the object displayed on the screen at least in one direction (0073

and 0130) for simulating the display of objects on a screen as determined by their properties (see also Brosnan, 0138)

the relative display position (fig. 2; e.g. the z-axis) indicates whether the object (figure 2; e.g. data models 203 representing files) is comparatively heavy or light (figure 2 and col. 2 line 40-47; e.g. the depth on the z axis depicting an attribute of each item within the space in comparison with the other items) with a difference in the display position in the direction of the virtual force (figure 2; e.g. the depth/shallowness of the data object with respect to the z axis indicates a display position).

In the same field of endeavor, (i.e. displaying objects according to their attributes), it would have been obvious to one of ordinary skill in the data processing art at the time of the present invention to combine the teachings of the cited references because the virtual forces, as provided by Brosnan, would have given Aoki's system better visualization of data items represented on a screen for the benefit of a user to better understand the placement of data relative to other data and furthermore making it easier for a user to manage that data (need shown by Aoki at col. 2 line 10-16).

With respect to claim 21, Aoki teaches A computer-readable recording medium which stores a program executable by a computer, the program including the functions:

acquiring values (102; i.e. detecting data characteristics) of a predetermined attribute (col. 2 line 45) for a plurality, of intended files (col. 2 line 10) in order to represent the values of a predetermined attribute therefor by using a concept of weight (i.e. density; col. 20);

setting (108), for each of the plurality of files (col. 2 line 10), a relative display position of a predetermined object that represents symbolically the files (col. 3 line 5-10, and at least figures 1, 2, and 46-47) in terms of whether the weight thereof is heavy or light (i.e. density, col. 20 line 30-67), based on the values of a predetermined attribute (col. 2 line 45); and

displaying the objects of the plurality of files at the respective display positions on a screen (drawing reference 107), and expressing visually comparison of the weights of the objects via another object that symbolizes weight measurement (figures 44-47; i.e. denser objects are represented deeper on the z-axis), wherein

the relative display position (fig. 2; e.g. the z-axis) indicates whether the object (figure 2; e.g. data models 203 representing files) is comparatively heavy or light (figure 2 and col. 2 line 40-47; e.g. the depth on the z axis depicting an attribute of each item within the space in comparison with the other items) with a difference in the display position in the direction of the virtual force (figure 2; e.g. the depth/shallowness of the data object with respect to the z axis indicates a display position).

Aoki fails to explicitly teach the relative display position indicates that a virtual force is exerted on the object displayed on the screen at least in one direction.

Brosnan, however, teaches the relative display position indicates that a virtual force is exerted on the object displayed on the screen at least in one direction (0073 and 0130) for simulating the display of objects on a screen as determined by their properties (see also Brosnan, 0138).

In the same field of endeavor, (i.e. displaying objects according to their attributes), it would have been obvious to one of ordinary skill in the data processing art at the time of the present invention to combine the teachings of the cited references because the virtual forces, as provided by Brosnan, would have given Aoki's system better visualization of data items represented on a screen for the benefit of a user to better understand the placement of data relative to other data and furthermore making it easier for a user to manage that data (need shown by Aoki at col. 2 line 10-16).

With respect to claim 22, Aoki teaches A computer-readable recording medium which stores a program executable by a computer, the program including the functions of:

acquiring values of a predetermined attribute for a plurality of files, in order to represent the values of a predetermined attribute for intended files (col. 8 lines 46-50 and figure 1, 108, 102) by using a concept of weight (i.e. density, col. 20);

setting a temporary sequence for the plurality of files (figure 2 and col. 9 lines 1-20; 3-D model);

determining, based on the temporary sequence (figure 2), a temporary display position of a predetermined object (figures 44-47) that symbolically represents the files (col. 2 line 10) in terms of whether the weight thereof is heavy or light (i.e. density, col. 20);

displaying an object that corresponds to the plurality of files (col. 2 line 10), at the temporary display position on a screen (figure 2, 202, 203);

comparing the values of a predetermined attribute between adjacent files in the temporary sequence (embodiment 1, column 9);

updating the display position based on a comparison result obtained from said comparing (col.34 lines 9-20); and

representing visually the weight thereof by varying display contents according to said updating (as a display pattern determined based on size; col. 9 lines 8-10), wherein

the temporary display position (fig. 2; e.g. the z-axis) indicates whether the object (figure 2; e.g. data models 203 representing files) is comparatively heavy or light (figure 2 and col. 2 line 40-47; e.g. the depth on the z axis depicting an attribute of each item within the space in comparison with the other items) with a difference in the display position in the direction of the virtual force (figure 2; e.g. the depth/shallowness of the data object with respect to the z axis indicates a display position).

Aoki fails to explicitly teach the temporary display position indicates that a virtual force is exerted on the object displayed on the screen at least in one direction.

Brosnan, however, teaches the temporary display position indicates that a virtual force is exerted on the object displayed on the screen at least in one direction (0073 and 0130) for simulating the display of objects on a screen as determined by their properties (see also Brosnan, 0138).

In the same field of endeavor, (i.e. displaying objects according to their attributes), it would have been obvious to one of ordinary skill in the data processing art at the time of the present invention to combine the teachings of the cited references

because the virtual forces, as provided by Brosnan, would have given Aoki's system better visualization of data items represented on a screen for the benefit of a user to better understand the placement of data relative to other data and furthermore making it easier for a user to manage that data (need shown by Aoki at col. 2 line 10-16).

With respect to claim 23, Aoki teaches a file processing apparatus, including;

an attribute input unit (102) adapted to acquire a value of an attribute (col.2 line 46) for at least one file (col. 2 line 10) in order to represent the value of the attribute by using a concept of density (as thickness; col. 10, line 10, col. 11 line 24-27, col. 24 lines 16-20 and figures 8, 46, 47, and density; col. 20, line 30-45 and line 55-65);

a position determining unit (106) which sets a relative display position of a predetermined object (drawing reference 208, figure 47) representing the at least one file (col. 2 line 10), the relative display position representing the value of the attribute (figure 8 and col. 10 line 6-15; i.e. size attribute) by comparing the value in terms of the density (col. 20 line 38) representing the value of the attribute by comparing the value in terms of the density (figure 44, 47, reference 208 and col. 21 lines 16-22),

a display processing unit (107) adapted to visually represent the predetermined object in the relative display position by displaying the object at the relative display position on a screen (col. 9 lines 23-25).

Aoki fails to expressly teach a virtual buoyant force exerted on the predetermined object displayed on the screen in at least one direction. Brosnan, however, teaches virtual buoyant force exerted on the predetermined object displayed on the screen in at least one direction (0073, 0130) for simulating the movement of objects in a display (Brosnan, 0130 first two lines).

In the same field of endeavor, (i.e. displaying objects according to their attributes), it would have been obvious to one of ordinary skill in the data processing art at the time of the present invention to combine the teachings of the cited references because the virtual forces, as provided by Brosnan, would have given Aoki's system better visualization of data items represented on a screen for the benefit of a user to better understand the placement of data relative to other data and furthermore making it easier for a user to manage that data (need shown by Aoki at col. 2 line 10-16).

With respect to claim 24, Aoki teaches a method of processing files, including:

acquiring values of a predetermined attribute for a plurality of intended files (102, detecting characteristics) in order to represent the values of a predetermined attribute therefor by using a concept of density (as thickness; col. 10, line 10, col. 11 line 24-27, col. 24 lines 16-20 and figures 8, 46, 47, and density; col. 20, line 30-45 and line 55-65);

setting, for each of the plurality of files, a relative display position of a predetermined object that represents symbolically the files in terms of whether the density thereof is high or low, based on a value of the predetermined attribute (figure 44, 47, reference 208 and col. 21 lines 16-22); and

displaying the objects representing the plurality of files at the respective display positions on a screen, and expressing visually a comparison of the density of the objects with each other object (col. 9 lines 23-25 and figures 46-47).

Aoki fails to expressly teach a virtual buoyant force exerted on the predetermined object displayed on the screen in at least one direction. Brosnan, however, teaches virtual buoyant force exerted on the predetermined object displayed on the screen in at least one direction (0073, 0130) for simulating the movement of objects in a display.

In the same field of endeavor, (i.e. displaying objects according to their attributes), it would have been obvious to one of ordinary skill in the data processing art at the time of the present invention to combine the teachings of the cited references because the virtual forces, as provided by Brosnan, would have given Aoki's system better visualization of data items represented on a screen for the benefit of a user to better understand the placement of data relative to other data and furthermore making it easier for a user to manage that data (need shown by Aoki at col. 2 line 10-16).

With respect to claim 25, Aoki teaches a computer-readable recording medium which stores a program executable by a computer, the program including the functions of:

acquiring values of a predetermined attribute for a plurality of intended files (102, detecting characteristics) in order to represent the values of the predetermined attribute therefor by using a concept of density (as thickness; col. 10, line 10, col. 11 line 24-27, col. 24 lines 16-20 and figures 8, 46, 47, and density; col. 20, line 30-45 and line 55-65);

setting, for each of the plurality of files, a relative display position of a predetermined object representing symbolically the files in terms of whether the density thereof is high or low, based on the values of the predetermined attribute (figure 44, 47, reference 208 and col. 21 lines 16-22); and

displaying on a screen the objects of the plurality of files at the respective display positions, and expressing visually comparison of the density of the objects with each other object (col. 9 lines 23-25 and figures 46-47)

the display position (fig. 2; e.g. the z-axis) indicates whether the object (figure 2; e.g. data models 203 representing files) is comparatively heavy or light (figure 2 and col. 2 line 40-47; e.g. the depth on the z axis depicting an attribute of each item within the space in comparison with the other items) with a difference in the display position in the direction of the virtual force (figure 2; e.g. the depth/shallowness of the data object with respect to the z axis indicates a display position).

Aoki fails to expressly teach a virtual buoyant force exerted on the predetermined object displayed on the screen in at least one direction.

Brosnan, however, teaches virtual buoyant force exerted on the predetermined object displayed on the screen in at least one direction (0073, 0130) for simulating the movement of objects in a display.

In the same field of endeavor, (i.e. displaying objects according to their attributes), it would have been obvious to one of ordinary skill in the data processing art at the time of the present invention to combine the teachings of the cited references because the virtual forces, as provided by Brosnan, would have given Aoki's system

better visualization of data items represented on a screen for the benefit of a user to better understand the placement of data relative to other data and furthermore making it easier for a user to manage that data (need shown by Aoki at col. 2 line 10-16).

With respect to claim 26, Aoki teaches the file processing apparatus according to Claim 1, wherein the attribute includes a data size (col. 9 line 5-8).

With respect to claim 27, Aoki teaches the file processing apparatus according to Claim 1, wherein the attribute includes at least one of a preparation date, a date of file updating, an importance, a type of file, a number of files contained in a folder, a the number of sub-folders contained in the folder, a count of file updating, a frequency of file updating (col. 9 line 19; i.e. the date of creation represents at least the preparation date).

Claims 2 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aoki and Brosnan as applied to claims 1, 3-6, 9, 10, 12-14, 16, and 20-25 above further in view of Vaananen et al. (Vaananen hereinafter) U.S. Patent Application 2002/0175896 A1.

With respect to claim 2 and similar claim 11, Aoki and Brosnan fail to teach a file processing apparatus according further including an inclination detector which detects inclination of a predetermined region in the file processing apparatus operated by a

user, wherein according to the inclination detected by said inclination detector said position determining unit varies the relative display position and the direction in which the force is exerted.

Vaananen, however, teaches this limitation as element 50 of figures 2 and 5 and paragraph 0078. Therein an accelerator sensor is disclosed to measure tilting movements.

It would have been obvious to one of ordinary skill in the data processing art at the time of the present invention to combine the teachings of the cited references because the teachings of Vaananen would have provided Aoki-Brosnan's system with the ability to vary a relative display position to obtain an easier to use user interface. Vaananen suggests in paragraph 0009 a need for a less "slow and awkward" method of data browsing. Aoki suggests in column 2, lines 2-4 a need to be able to access and manage data in a straightforward manner.

Claims 7, 8, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Aoki and Brosnan as applied to claims 1, 3-6, 9, 10, 12-14, 16, and 20-25 above further in view of Adler et al ("Adler" hereinafter) U.S. Patent 6,340,957.

With respect to claim 7 and similar claims 8 and 15, Aoki and Brosnan teach a file processing apparatus as applied to claims 1, 3-6, 9, 10, 12-14, 6, and 20-25 above.

Aoki and Brosnan fail to teach a file processing apparatus further including a vibration detector which detects a swaying motion at a predetermined region of the file processing apparatus operated by a user, wherein said comparison processing unit performs a comparison processing when the motion is detected, and said position determining unit updates the relative display position according to the result obtained from said comparison processing unit.

Adler, however, teaches these limitations from at least (col. 15 lines 15-22). Therein displayed data is manipulated according to vibration for accessing and managing data in a straightforward manner.

It would have been obvious to one of ordinary skill in the data processing art at the time of the present invention to combine the teachings of the cited references because this feature of Adler would have satisfied Aoki-Brosnan's need for accessing and managing data in a straightforward manner which is needed by Aoki (column 2 line 12-17 and column 12 lines 15-23). Further, data would be displayed accordingly in response to detecting a vibration for the benefit of allowing the data to be readily visible as is needed by Aoki.

Response to Arguments

Applicant's remarks filed in the reply dated 1/31/2008 have been fully considered but they are not persuasive.

Applicant argues on page 15 of the reply that neither reference discloses nor suggests visually representing a file in terms of an attribute in terms of whether the object is light or heavy. The Examiner respectfully disagrees given the following:

A limitation in claim 1 recites “a display processing unit which visually represents the value of the attribute in terms of whether the weight is heavy or light, by displaying the object at the display position on a screen set by said position determining unit.” In other words, it can be interpreted that the visual position of the object on the screen represents the weight of the object and therefore represents the object as "heavy" or "light". The Examiner submits that Aoki’s disclosure reads on this limitation.

Specifically, Aoki shows a three dimensional coordinate space in which data models are displayed. In the coordinate space, a Z axis is included to show the depth of the model. Aoki teaches (in one embodiment) that the date of creation is set to the Z axis (see Aoki, embodiment 2, col. 13 line 31-35). Because the attribute in the present invention may be a preparation date (i.e. in claim 27, which is seen to be the same as a date of creation), and that Aoki sets the position of an object representing data according to a creation date, the Examiner submits Aoki to teach the visual representation of a file in terms of whether it is heavy or light.

Applicant disagrees (see page 15 of the reply) that the references teach representing the attribute of a file with the display position of the object subject to a virtual force. The Examiner respectfully disagrees because Brosnan is seen to teach

the virtual force applied on an object. That is, Brosnan applies force equations to model forces such as gravity and buoyancy forces on an object (Brosnan, paragraph 0130). Furthermore, and for example, the Examiner submits that an object in Brosnan shown to have gravity would fall (e.g. Brosnan at 0116) or be drawn to another object (i.e. Brosnan at 0179). Therefore Brosnan, with the teaching of varying the display position of an object based on weight (i.e. with gravity), teaches a virtual force effected on an object.

Also, Applicant argues (on page 15 of the reply) that the references do not disclose indicating whether the object is heavy or light with the display position that varies in the direction of the virtual force. The Examiner submits that Aoki teaches arranging data models based (at least in one embodiment; e.g. embodiment 2, col. 13) on date of creation (e.g. Aoki, figure 2). The Examiner further submits that an object with a creation date would be placed accordingly at a position along a Z axis in Aoki to show its relevance to the Z axis (i.e. when it was created). Furthermore, the data placed on the Z axis describes that the object is "comparatively heavy or light" in that its position is determined by the date of creation attribute. Put another way, the data models in figure 2 are placed comparatively to the Z axis (as well as comparatively to other data models) according to their date of creation. Because the claimed attribute that determines the display position may be a preparation date (i.e. Aoki's creation date) and therefore defines it as being heavy or light, likewise, Aoki's data placement of data according to date of creation is essentially the same.

Additionally, Applicant argues on page 14 of the reply, that the combination of the references is improper because Brosnan and Aoki relate to different fields of endeavor. The Applicant specifies this point by stating that Brosnan relates to video gaming, while Aoki relates to three-dimensional data display. The Examiner maintains that it would have been reasonable to combine the references for the rationale given in the preceding respective 35 U.S.C. 103 (a) rejections. Further the Examiner submits that the cited references may still be combined in that they are both related to processing data in a display. Furthermore, since Brosnan is also oriented in generating objects in a three-dimensional environment (e.g. see Brosnan's abstract) they are in the same field of endeavor.

The Examiner wishes to further note that in light of the new grounds of rejection under 35 U.S.C. 101 presented above, this Office Action is hereby a Non-Final Office Action.

Relevant Prior Art

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent 6,466,237 to Miyao et al. The subject matter disclosed therein pertains to the pending claims (i.e. 3-D display of data according to attributes).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert M. Timblin whose telephone number is 571-272-5627. The examiner can normally be reached on M-F 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John R. Cottingham can be reached on 571-272-7079. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/ROBERT TIMBLIN/

Examiner, Art Unit 2167

/John R. Cottingham/

Supervisory Patent Examiner, Art Unit 2167